

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
17 June 2004 (17.06.2004)

PCT

(10) International Publication Number
WO 2004/050368 A1

(51) International Patent Classification⁷: B41F 35/00

(21) International Application Number:

PCT/SE2003/001840

(22) International Filing Date:

28 November 2003 (28.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0203576-4 3 December 2002 (03.12.2002) SE

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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

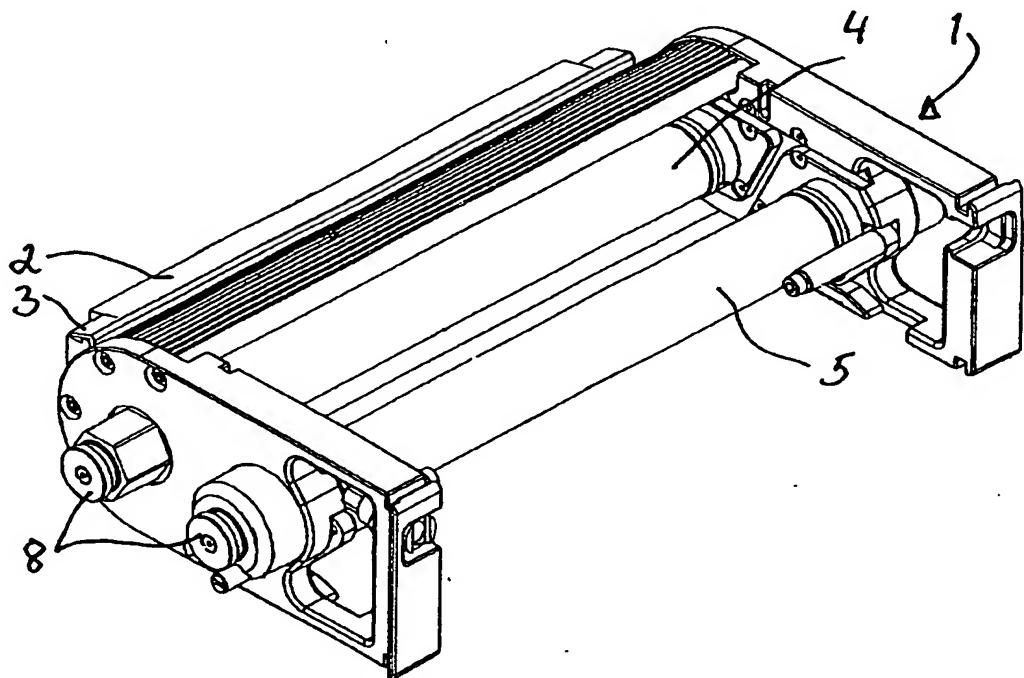
(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A BOBBIN FOR A WASHING UNIT IN A PRINTING PRESS



(57) Abstract: A bobbin (6) for a cleaning cloth (2) in a washing unit (1) for a cylinder in a printing press is provided with internal, longitudinal or axial projections (6') for cooperation with corresponding longitudinal grooves (7') in a shaft (7) therefore and with embossments over at least a part of its circumferential surface.

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Preferably, the bobbin is provided with internal, longitudinal or axial projections for cooperation with corresponding longitudinal grooves in the shaft and is embossed over at least a part of its circumferential 5 surface.

Alternatively or additionally, the cloth may be held to the bobbin by means of serrated clips.

In this way the bobbin is held in its intended position, i e it can not rotate on its shaft if the cloth 10 is exposed to a pulling action due to friction during the cleaning operation, and the cloth in turn is held to the bobbin when exposed to said pulling action.

The Drawing

The invention will be described in further detail 15 below under reference to the accompanying drawing, in which Fig 1 is a perspective view of a washing unit for a cylinder in a printing press, Fig 2 is a side view of a bobbin for use in the washing unit, and Fig 3 is an end view of the bobbin of Fig 2 with a shaft therefore shown in 20 section.

Detailed Description of a Preferred Embodiment

As is well known in the printing art, a washing unit 1 may be arranged in the vicinity of a cylinder, for example a blanket cylinder, in a printing press for the 25 purpose of cleaning the cylinder by means of a cloth in the washing unit. When the cylinder is to be cleaned, the washing unit 1 is applied with its cloth against the circumferential cylinder surface; in this stage washing liquid is preferably supplied to the cloth.

The washing unit 1 is known *per se* and is accordingly only briefly described and to the extent necessary for a proper understanding of the invention.

A cleaning cloth 2 is arranged over a pad 3 at a front end of the washing unit 1 to be brought into 35 engagement with the cylinder to be cleaned. The cloth 2 may

be stepwise unrolled from a cloth supply roll 4 and again be rolled up after use on a cloth return roll 5.

Each cloth roll 4, 5 comprises a bobbin 6 (Figs 2 and 3) on a conditionally rotatable shaft 7 (only shown in Fig 5 3) in the washing unit 1. The shafts with their bobbins may be released from the washing unit 1 by locking means 8 for cloth replacement.

A clean cloth portion is stepwise supplied from the supply roll 4 to the pad 3, before the washing unit 1 is 10 applied to the cylinder to be cleaned. The used cloth is transferred to the return roll 5.

When the entire cloth supply is used-up and the cloth 2 has been gathered on the return roll 5, the bobbin 6 with 15 the used cloth is removed on its shaft 7 from the washing unit and discarded. A new bobbin with a clean cloth is supplied as a supply roll 4 in the proper place in the washing unit, and a new empty bobbin, to which the end of the clean cloth is attached, is mounted in the position for the return roll.

20 The bobbin 6 is essentially a tube, preferably made of plastic material. The tube has an inner diameter corresponding to the outer diameter of the shaft 7 on which it is to be arranged and a length adapted to the width of the cloth 2.

25 As is visible in Fig 3, the bobbin 6 is provided with internal, longitudinal or axial projections 6' for cooperation with corresponding longitudinal grooves 7' in the shaft 7. The purpose of this arrangement is to keep the shaft 7 and bobbin 6 from relative rotatable movements 30 during operation.

Also, the bobbin 6 is preferably embossed over at least a part of its circumferential surface in order to prevent relative movements between the cloth 2 and the bobbin during operation.

CLAIMS

1. A bobbin (6) for a cleaning cloth (2) in a washing unit (1) for a cylinder in a printing press, characterized in that the bobbin (6) is provided with internal means (6') for rotationally locking it to its shaft (7) in the washing unit (1) and with external means for preventing sliding tangential movements between the bobbin and the cloth (2).
2. A bobbin according to claim 1, wherein the bobbin (6) is provided with internal, longitudinal or axial projections (6') for cooperation with corresponding longitudinal grooves (7') in the shaft (7).
3. A bobbin according to claim 1, wherein the bobbin (6) is embossed over at least a part of its circumferential surface.
4. A bobbin according to any of the preceding claims, wherein the bobbin (6) is made of a plastic material.

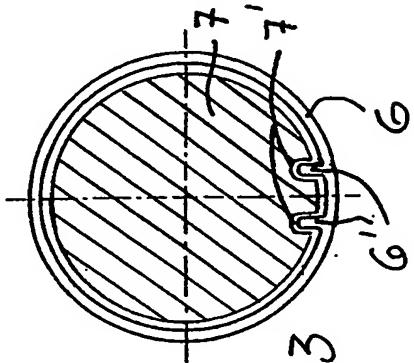


Fig 3

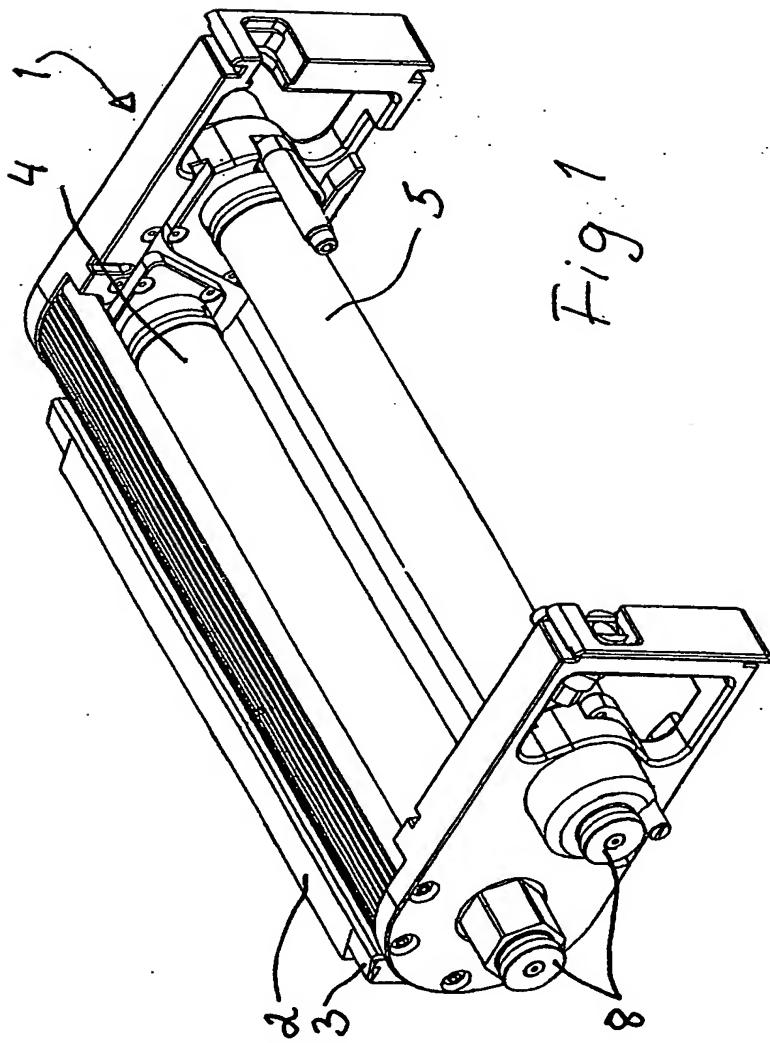


Fig 1

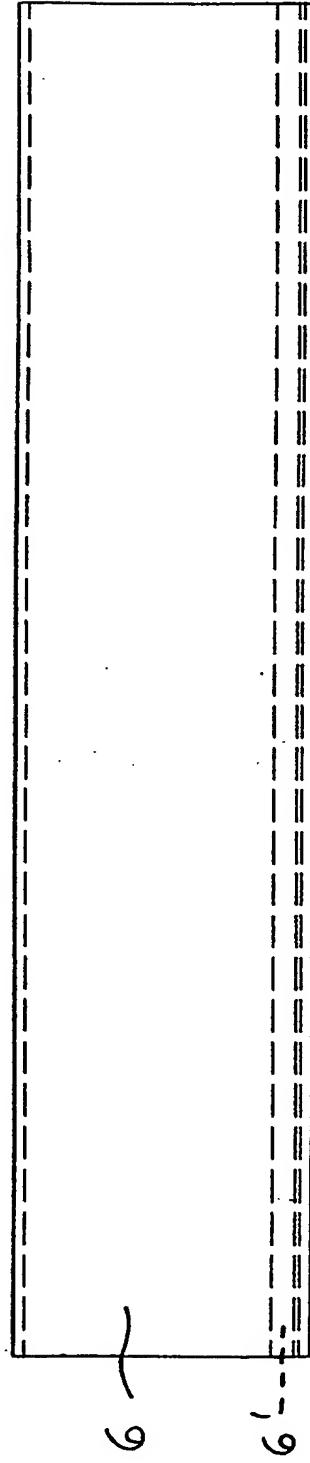


Fig 2

6'
6'

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 2003/001840

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: B41F 35/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: B41F, B65H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 10018425 A1 (BALDWIN GRAFOTEC GMBH), 11 October 2001 (11.10.2001) --	1-4
A	DE 19906726 A1 (HEIDELBERGER DRUCKMASCHINEN AG), 16 Sept 1999 (16.09.1999) --	1-4
A	EP 0795402 A1 (BALDWIN-JAPAN LTD.), 17 Sept 1997 (17.09.1997) --	1-4
A	US 1968402 A (J.C. KINKER, JR), 31 July 1934 (31.07.1934) --	1-4

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- "P" document published prior to the international filing date but later than the priority date claimed

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- "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search

19 February 2004

Date of mailing of the international search report

24-02-2004

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 2003/001840

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0001036 A1 (VEREINIGTE ÖSTERREICHISCHE EISEN - UND STAHLWERKE - ALPINE MONTAN AG), 21 March 1979 (21.03.1979) --	1-4
A	DE 19731845 A1 (HEIDELBERGER DRUCKMASCHINEN AG), 22 October 1998 (22.10.1998) -- -----	1-4

INTERNATIONAL SEARCH REPORT
Information on patent family members

24/12/2003

International application No.
PCT/SE 2003/001840

DE	10018425	A1	11/10/2001	CN	1392837	T	22/01/2003
				EP	1272349	A	08/01/2003
				JP	2003530248	T	14/10/2003
				US	2003075064	A	24/04/2003
				WO	0176876	A	18/10/2001
DE	19906726	A1	16/09/1999	JP	11291464	A	26/10/1999
				US	6237492	B	29/05/2001
EP	0795402	A1	17/09/1997	CN	1168836	A	31/12/1997
				DE	69713823	D, T	13/03/2003
				EP	1176010	A	30/01/2002
				JP	3083131	B	04/09/2000
				JP	9248902	A	22/09/1997
				JP	2904481	B	14/06/1999
				JP	10180993	A	07/07/1998
US	1968402	A	31/07/1934	NONE			
EP	0001036	A1	21/03/1979	AT	350029	B	10/05/1979
				AT	659877	A	15/10/1978
DE	19731845	A1	22/10/1998	DE	29706836	U	05/06/1997